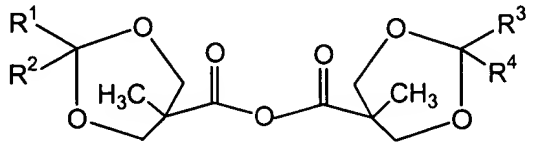
Amendments to the Claims:

This listing of claims will replace all prior versions, and listings of claims in the application:

Listing of Claims:

Claim 1. (Previously presented) An anhydride having the structure:



wherein,

R^1, R^2, R^3, and R^4 are members independently selected from substituted or unsubstituted alkyl, substituted or unsubstituted heteroalkyl and substituted or unsubstituted aryl.

Claim 2. (Previously presented) The anhydride according to claim **1**, wherein each of R^1, R^2, R^3, and R^4 is an independently selected C_1-C_6 unsubstituted alkyl group.

Claim 3. (Currently amended) The anhydride according to claim **2**, wherein said unsubstituted alkyl group is a member selected from the group consisting of methyl, ethyl and propyl.

Claim 4. (Previously presented) The anhydride according to claim **1**, wherein said anhydride is a solid, which is substantially free of coupling reagent derived side products.

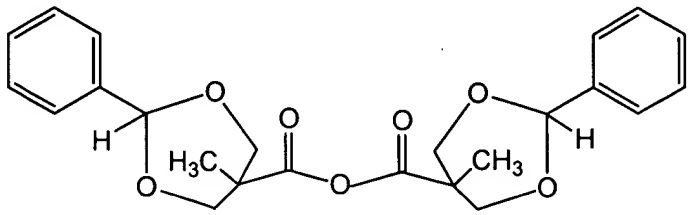
Claim 5. (Currently amended) The anhydride ~~compound~~ according to claim **1**, prepared by a method consisting essentially of:

(a) combining benzylidene-2,2-bis(methoxy)propanoic acid, N,N′-dicyclohexylcarbodiimide and an organic solvent, thereby forming a reaction mixture in which said anhydride is formed;

(b) filtering said reaction mixture, thereby removing precipitated dicyclohexylurea from said reaction mixture;

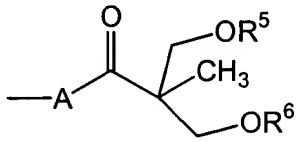
(c) precipitating said anhydride from said reaction mixture by contacting said reaction mixture with a hydrocarbon solvent, thereby producing said anhydride.

Claim 6. (Previously presented) An anhydride having the structure:



Claim 7. (Previously presented) The anhydride according to claim **6**, wherein said anhydride is a solid and is substantially free of coupling reagent derived side products.

Claim 8. (Currently amended) A dendrimer which is substantially free of urea side products, said dendrimer comprising a subunit having the structure:

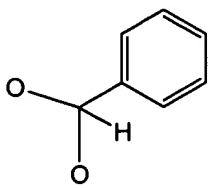


wherein,

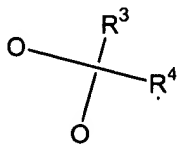
A is an active group, which is a member selected from NH, S and O;

R^5 and R^6 are members independently selected from the group consisting of H, diagnostic agents, therapeutic agents, analytical agents, and moieties comprising a reactive group ~~or, alternatively~~

wherein R^5 and R^6 together with the oxygen atoms to which they are attached optionally form a structure which is a member selected from the group consisting of:



; and



Claim 9. (Previously presented) The dendrimer according to claim **8**, wherein A is a component of a polymer.

Claim 10. (Previously presented) The dendrimer according to claim **9**, wherein said polymer is a member selected from the group consisting of nucleic acids, linear poly(alkylene oxides), star poly(alkylene oxides), polysaccharides, poly(amino acids) and poly(hydroxystyrene).

Claim 11. (Currently amended) The dendrimer according to claim **10** [[8]], wherein said polysaccharide is a member selected from cyclodextrin, starch, hydroxyethyl starch and dextran.

Claim 12. (Currently amended) The dendrimer according to claim **10** [[8]], wherein said poly(amino acid) comprises lysine, tyrosine, serine, cysteine, arginine, histidine and combinations thereof.

Claim 13. (Currently amended) The dendrimer according to claim **9** [[7]], wherein said polymer is a synthetic organic polymer with pendant NH groups, OH groups, SH groups and combinations thereof.

Claim 14.. (Currently amended) The dendrimer according to claim **13** [[11]], wherein said synthetic organic polymer is a member selected from poly(vinylphenol), poly(hydroxymethacrylate), poly(N-2-hydroxypropylmethacrylamide), poly(diallylamine), poly(lactic acid) and poly(hydroxymethylcaprolactone), poly(4-hydroxyethylcaprolactone).

Claim 15. (Currently amended) The dendrimer according to claim **8** [[6]], wherein said therapeutic agent is a member selected from the group consisting of antiproliferative agents, proteins, anti-cancer chemotherapeutic agents, antibiotics, antivirals, and antiparasitics.

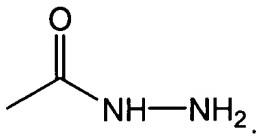
Claim 16. (Currently amended) The dendrimer according to claim **8** **[[6]]**, wherein said diagnostic agent is a member selected from MRI contrast agents, X-ray contrast agents, CT contrast agents, PET contrast agents, ultrasonography contrast agents, fluorescent agents, chromophoric agents and radioisotopes.

Claim 17. (Previously presented) The dendrimer according to claim **8**, wherein said subunit repeats from 2 to 100 times.

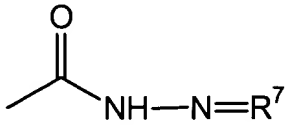
Claim 18. (Previously presented) The dendrimer according to claim **17**, wherein said subunit repeats from 4 to 50 times.

Claim 19. (Previously presented) The dendrimer according to claim **18**, wherein said subunit repeats from 8 to 24 times.

Claim 20. (Currently amended) A dendrimer according to claim **8** **[[6]]**, wherein at least one of R^5 and R^6 has the structure:



Claim 21. (Currently amended) A dendrimer according to claim **8** **[[6]]**, wherein at least one of R^5 and R^6 has the structure:

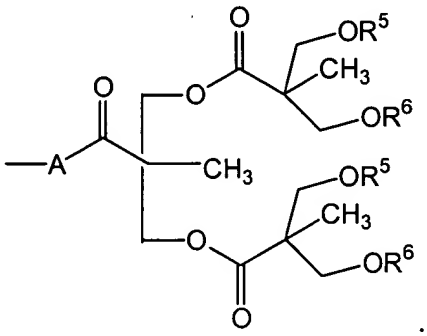


wherein, R^7 is a member selected from the group consisting of diagnostic agents, therapeutic agents and analytical agents.

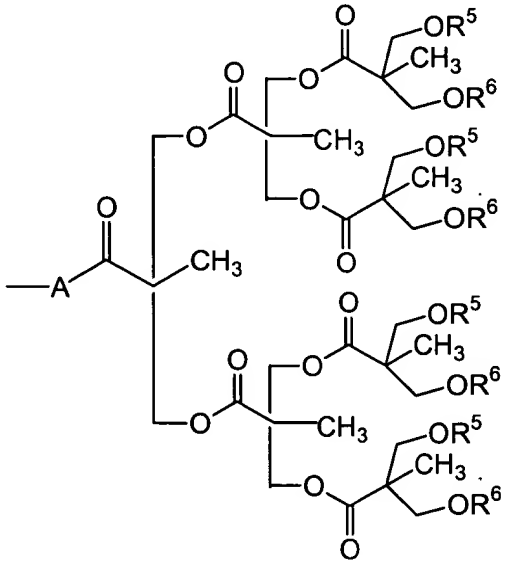
Claim 22. (Currently amended) A dendrimer according to claim **21** **[[19]]**, wherein R^7 is a doxorubicin derivative.

Claim 23. (Currently amended) A pharmaceutical formulation comprising a dendrimer according to claim **8** **[[6]]** and a pharmaceutically acceptable carrier.

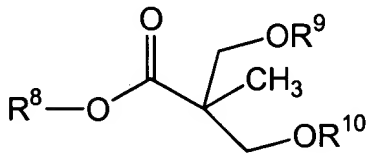
Claim 24. (Previously presented) A dendrimer comprising a subunit having the structure:



Claim 25. (Previously presented) A dendrimer comprising a subunit having the structure:



Claim 26. (Previously presented) A dendrimer having the structure:



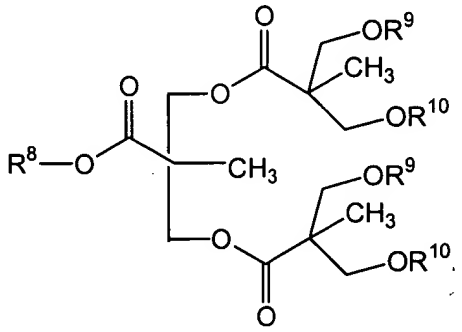
wherein,

R^8 is a nucleic acid; and

R^9 and R^{10} are members independently selected from H and a poly(ethylene oxide) residue.

Claim 27. (Currently amended) The dendrimer according to claim **26** **[[24]]**, said dendrimer being substantially free of urea side products.

Claim 28. (Previously presented) A dendrimer comprising the structure:



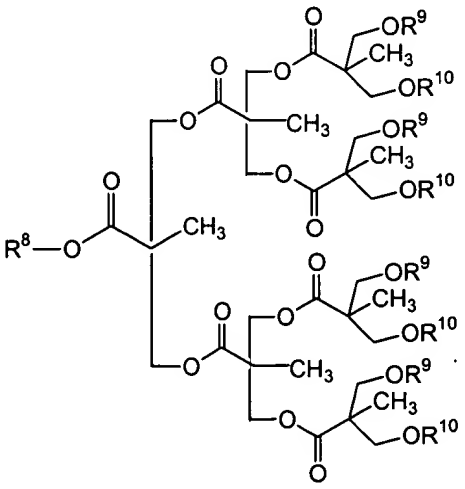
wherein,

R^8 is a nucleic acid; and

R^9 and R^{10} are members independently selected from H and a poly(ethylene oxide) residue.

Claim 29. (Currently amended) The dendrimer according to claim **28** **[[26]]**, said dendrimer being substantially free of urea side products.

Claim 30. (Previously presented) A dendrimer comprising the structure:



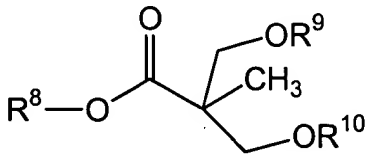
wherein,

R^8 is a nucleic acid; and

R^9 and R^{10} are members independently selected from H and a poly(ethylene oxide) residue.

Claim 31. (Currently amended) The dendrimer according to claim **30** **[[28]]**, said dendrimer being substantially free of urea side products.

Claim 32. (Previously presented) A biological compartment comprising a membrane defining an interior space, said interior space comprising a dendrimer comprising a subunit having the structure:

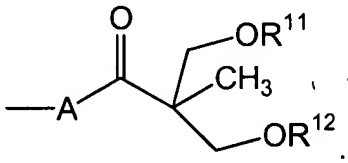


wherein,

R^8 is a nucleic acid; and

R^9 and R^{10} are members independently selected from H and a poly(ethylene oxide) residue.

Claim 33. (Previously presented) A biological compartment comprising a membrane defining an interior space, said interior space comprising a dendrimer comprising a subunit having the structure:



wherein,

A is a residue of an active group; and

R^{11} and R^{12} are members independently selected from the group consisting of H, therapeutic agents and diagnostic agents.

Claim 34. (Currently amended) The biological compartment according to claim 33 [[31]], wherein said therapeutic agent is a member selected from the group consisting of antiproliferative agents, proteins, anti-cancer chemotherapeutic agents, antibiotics, antivirals, nucleic acids, and antiparasitics.

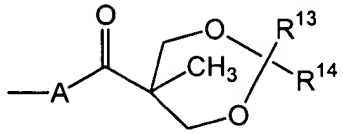
Claim 35. (Currently amended) The biological compartment according to claim 33 [[31]], wherein said diagnostic agent is a member selected from MRI contrast agents, X-ray contrast agents, CT contrast agents, PET contrast agents, ultrasonography contrast agents, nucleic acids, fluorescent probes, chromophoric probes and radioisotopes.

Claim 36. (Currently amended) The biological compartment according to claim 33 [[31]], wherein A is a residue of a core moiety, and said core moiety is a poly(alkylene oxide) residue.

Claim 37. (Previously presented) The biological compartment according to claim 36, wherein said core moiety is a poly(ethylene oxide) residue.

Claim 38. (Currently amended) The biological compartment according to claim 33 [[31]], wherein said biological compartment is a member selected from cells and organelles.

Claim 39. (Previously presented) A method of producing a protected first generation dendrimer substantially free of urea side products, said dendrimer comprising a subunit having the structure:



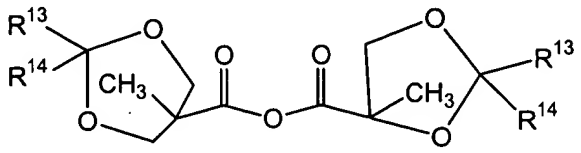
wherein,

A is an active group residue selected from NH, O and S on a core moiety; and

R^{13} and R^{14} are components of a diol protecting group and are members independently selected from H, substituted or unsubstituted alkyl, substituted or unsubstituted heteroalkyl and substituted or unsubstituted aryl, with the proviso that when R^{13} is H, R^{14} is other than H;

said method comprising:

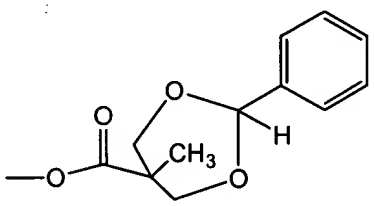
(a) forming a reaction mixture by contacting a core moiety comprising A with an acylating group in an organic solvent, said acylating group having the structure:



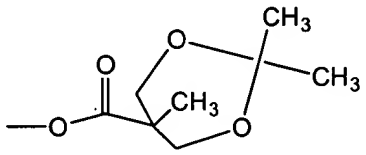
thereby acylating A, forming said dendrimer; and

(b) extracting said reaction mixture with an aqueous solution, thereby removing impurities.

Claim 40. (Currently amended) The method according to claim **39** [[37]], wherein said subunit is a member selected from the group consisting of:

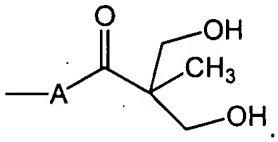


; and



Claim 41. (Previously presented) The method according to claim **39**, further comprising:

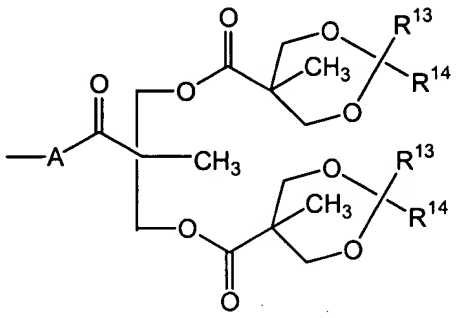
(c) removing said diol protecting group, thereby forming a first generation dendrimer comprising a subunit having the structure:



Claim 42. (Currently amended) A dendrimer prepared by the method according to claim **41** [[39]].

Claim 43. (Currently amended) The dendrimer according to claim **42** [[40]], wherein said dendrimer is a solid.

Claim 44. (Currently amended) A method of producing a protected second generation dendrimer substantially free of urea side products, said dendrimer comprising a subunit having the structure:



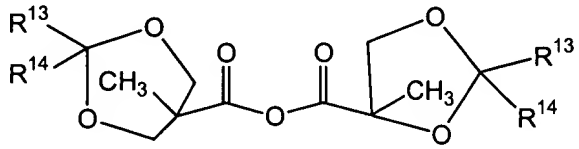
wherein,

A is an active group selected from NH, O and S on a core moiety; and

R^{13} and R^{14} are components of a diol protecting group and are members independently selected from H, substituted or unsubstituted alkyl, substituted or unsubstituted heteroalkyl and substituted or unsubstituted aryl, with the proviso that when R^{13} is H, R^{14} is other than H;

said method comprising:

(a) contacting said first generation dendrimer according to claim **41** **[[39]]** with an acylating group having the structure:

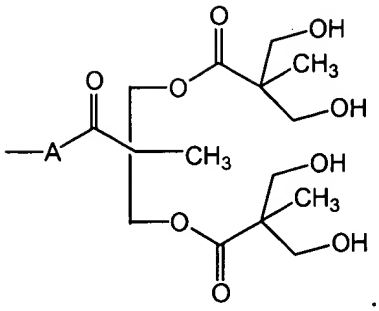


thereby acylating A, forming said dendrimer; and

(b) extracting said reaction mixture with an aqueous solution, thereby removing impurities.

Claim 45. (Previously presented) The method according to claim **44**, further comprising:

(c) removing said diol protecting group, thereby forming a second generation dendrimer comprising a subunit having the structure:



Claim 46. (Previously presented) A dendrimer prepared by the method according to claim **44**.

Claim 47. (Currently amended) ~~A dendrimer prepared by the method according to claim 44,~~ The dendrimer according to claim **46**, wherein said dendrimer is a solid.

Claim 48. (Previously presented) A method of enhancing water solubility of an agent, said method comprising forming a conjugate between said agent and a dendrimer comprising a subunit having the structure: